



December 18, 2020

Dr. Michael Wang
Distinguished Fellow, Senior Scientist, and Manager, Energy Systems Assessments
Argonne National Laboratory
9700 South Cass Avenue, Building 362, Room E301
Lemont, IL 60439

Dear Dr. Wang:

We are writing to express our appreciation to you and your Argonne team for making important updates to the GREET model the last couple of years. We particularly thank you for your willingness to engage on the topic of soil organic carbon (SOC) sequestration, and for incorporating the new Feedstock Carbon Intensity Calculator (FD-CIC) in the 2020 GREET update. We believe this will improve how GREET accounts for the effect upstream farming practices have on the carbon intensity of biofuel.

A confluence of factors makes Argonne's release of the FD-CIC tool timely and important. USDA estimates that at scale, farming practices such as conservation tillage and nitrogen management would reduce greenhouse gases (GHGs) by 14 percent according to a report commissioned by the Chief Economists office. Regulatory bodies in existing low carbon fuel markets such as California and Oregon are currently exploring whether to account for and credit low carbon farming practices, including SOC sequestration, in their Low Carbon Fuel Standard (LCFS) programs. Moreover, the FD-CIC could help stakeholders make the case that *future* LCFS or clean fuel policies need to create a strong market driver to incentivize farmer adoption of practices benefiting soil health. As you know, significant momentum is building in support of new clean fuel policy in several Midwestern states.

Farmers could earn significant revenue if practices such as conservation tillage and nitrogen management can be quantified and credited under LCFS or clean fuel policies. To address these issues, we are working on a project to target incentives for conservation tillage, cover crops and nutrient management to farmers providing corn to two farmer-owned ethanol plants in Kansas and South Dakota. As farmers adopt these practices, we intend to quantify the gains and develop a non-proprietary verification regime to validate the GHG benefits of the practices. Our goal is to ultimately leverage the data to seek approval for crediting farmers with these practices in existing and future clean fuel policies.

Until such time we reach this goal, the FD-CIC tool can help estimate the benefits of these practices. However, we have identified an improvement we strongly encourage you to make so it can more accurately account for the effect feedstocks have on biofuel carbon intensity. As you know, the FD-CIC incorporates a lookup table for the SOC sequestration potentials of various farming and tillage practices.

Unfortunately, the SOC lookup table does not currently estimate the effect individual feedstock crops have on the overall lifecycle carbon intensity of biofuel. Instead, it simply generates an average SOC effect of a corn/soybean rotation. While it is true the corn/soybean rotation is dominant across the corn belt, we have several concerns about using the “average” SOC effects of corn and soybeans. First, averaging corn and soybean misrepresents the carbon intensity of corn ethanol. Second, given the difference corn and soybean feedstocks have on SOC and carbon intensity, it is inequitable. Finally, it fails to inform policymakers and regulators of the true lifecycle GHG effects of each crop.

We strongly urge you to improve the FD-CIC lookup table to account for the unique SOC effects of each biofuel feedstock crop. We also believe that future FD-CIC versions should provide estimations for the effects of superior nitrogen fertilizer management on nitrous oxide emissions. 4R (Right time, Right place, Right form, and Right rate) nitrogen fertilizer management has proven to reduce N₂O emissions significantly. We believe these improvements to the FD-CIC would help inform and influence clean fuel policy considerations at the state and federal level.

As always, we stand prepared to assist you as you consider making these changes to further improve the GREET model. Thank you for your ongoing work and for consideration of our requests.

Sincerely,

American Coalition for Ethanol
Kansas Corn
South Dakota Corn